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10/583,169	05/10/2007	Xavier Couillens	1022702-000323	5100
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EXAMINER KOLLAS, ALEXANDER C				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary

Application No.

10/583,169

Applicant(s)

COUILLENS ET AL.

Examiner

ALEXANDER C. KOLLIAS

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15 & 20-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

1. All outstanding claims objections and 35 USC 112, 2nd paragraph rejections are withdrawn in light of applicant's amendment filed on 7/29/2008.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.
3. New grounds of rejection are set forth below.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 15, 20-26, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlosser et al (US 6,255,371) in view of Flippo et al (US 2001/0008913).

Regarding claims 15, 20-26, 28-29, and 31-32 Schlosser et al teaches a fire-retardant composition comprising a polyamides and copolyamides such as nylon-6, nylon-4, and nylon-6,6 or polyester such as PBT or PET meeting the limitations recited in **claims 15, and 23-25** (Column 5, Lines 47-64 and column 6, Lines 1-8).

Regarding the fire-retardants, the reference discloses phosphinates given by Formula (I) which is identical to Formula (I) (disclosed a component A) recited in claim 1 as F1 (Abstract, Column 1, Lines 50-59). The reference discloses that R1 and R2 of disclosed Formula (I) are C₁-C₆ alkyl and can be the same or different (Column 1, Lines 65-67). Although the reference

does not explicitly disclose the phosphinic acid compounds recited in **claim 20**, disclosed Formula (I) clearly encompasses the recited compounds. The reference discloses that the phosphinate salt is added to the composition in the amount from 3 to 20 wt % meeting the claimed limitations recited in **claim 15** that F1 comprises at least 13 wt % of the composition (Column 3 Lines 22-25). Furthermore, it is noted that the amount disclosed by the reference is within the recited amount from 1 to 30 wt % of F1 recited in **claim 15** (Column 3, Lines 22-25).

The reference discloses that the composition comprises a second fire retardant such as condensation products of melamine and/or reaction products of melamine with phosphoric acid such as melamine polyphosphate and melem polyphosphate (compound F2) (disclosed as component B Column 2, Lines 7-12 and Column 2 Lines 57-60). The disclosed melamine and melem polyphosphate compound disclosed by the reference clearly encompass the compound recited in **claim 21**. It is noted that disclosed component B can be either melamine reaction products or melamine phosphate or a combination of the two. It is noted that disclosed compound B can be a mixture of melamine reaction products and melamine phosphate which clearly compasses compounds F2 and F3 recited in the instant claims. Furthermore, the reference discloses that component B comprises 3 to 20 wt % (Column 3 Lines 22-25). It is noted that the amount of component B is with the amount of F2 from 1 to 20 wt % recited in **claim 15**.

It is noted that components A and B comprise 6 to 40 wt %, clearly meeting the claim limitation recited in **claim 32** that the composition comprises at least 15 wt % of F1 and F2. Furthermore, as the reference discloses that components A (F1) and B (a mixture of F2 and F3) may independently comprise 3 to 20 wt % of the composition, the total amount of components A

and B (and therefore compounds F1-F3) is 6 to 40 wt %, meeting the claim limitation that F1-F3 comprises 1 to 50 wt % of the composition.

Additionally, the reference discloses that the composition comprises fillers such as glass fibers as well as articles of manufacture such as moldings, films, filaments and fibers, meeting the claim limitations recited in **claims 26 and 31**. Schlosser et al discloses all the claim limitations as set forth above. However, the reference does not disclose that melamine condensation products such as melam (recited compound F3) comprises 0.1 to 20 wt % of the composition.

Flippo et al discloses a fire-retardant polyamide composition melam which is added to the composition in the amount from 3 to 30 wt % (Page 2 [0008]). The reference discloses that amount below 1 wt % the effect of fire retardancy is too small while amount greater than 40 negatively influence the mechanical properties of the composition (Page 2 [0008]). The disclosed compound and amount used encompass the limitations recited in **claims 15 and 22**. Specifically, the reference discloses that low melam contents are used in combination with a second flame retardant such as zinc oxides and zinc borate which are especially useful in glass fiber reinforced compositions (Page 2, [0008]). The discloses auxiliary fire retardants disclosed by the reference, i.e., zinc borate and zinc oxide clearly meet the claim limitations drawn to synergistic flame-retardant agents recited in **claims 28-29**.

Based on the disclosure of Schlosser and Flippo et al, the amount of compounds F1-F3 is 3 to 80 wt % of the composition which meets the claim limitation recited in **claim 1** drawn to the total amounts of F1-F3 is 1 to 50 wt %..

Given that both Schlosser et al and Flippo et al are drawn to fire-retardant compositions containing polyamides and melamine condensation products, and, given that Schlosser et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the melam as taught by Flippo, it would therefore have been obvious to one of ordinary skill in the art to include such compounds in the composition disclosed by Schlosser with a reasonable expectation of success.

Regarding claim 30, modified Schlosser teaches all the claim limitations as set forth above. Additionally, Schlosser teaches a process for the manufacture of a fire-retardant composition comprising the step of blending thermoplastic such as polyamide with fire-retardant compounds (Column 7, Lines 5-19).

Regarding claim 31, Schlosser teaches all the claim limitations as set forth above. Additionally, the reference teaches an article of manufacture comprising a composition as defined in claim 15 (Column 7, Lines 5-19 wherein compounding assembly and polymer melting is disclosed and Column 7, Lines 28-30 wherein articles such as moldings films, filaments, and fibers are disclosed).

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schlosser et al (US 6,255,371) as applied to claims 15, 20-26, and 28-32 above and in view of Hanabusa et al (US 6,433,045).

Regarding claim 27, Schlosser teaches all the claim limitations as set forth above. Additionally, Schlosser teaches that minerals such as chalk may be added to the fire retardant molding composition (Column 7, Lines 20-23). However, the reference does not teach a composition, wherein the reinforcing fillers are wollastonite, kaolin, clay, silica and mica.

Hanabusa et al teaches a fire retardant composition comprising inorganic fillers are wollastonite, kaolin, clay, silica and mica (Column 5, Lines 40-49). Furthermore, the reference teaches that inorganic fillers can be used either singly or in combination of two or more of them. The fibrous filler, particularly the combination of a glass fiber with a powdery and/or platy filler (such as mica, See Column 5, Lines 48-49), is desirable for obtaining excellent mechanical strength.

Given that both Schlosser et al and Hanabusa et al are drawn to flame retardant thermoplastic compositions comprising phosphoric acid salts (Formula F1 of instant application), melamine compounds, and inorganic fillers and fibers, and, given that Schlosser et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the amount of inorganic fillers as taught by Hanabusa et al, it would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to include such inorganic fillers in the flame retardant thermoplastic composition as taught by Schlosser with a reasonable expectation of success

Response to Arguments

7. Applicant's arguments, see Remarks, filed 7/29/2008, with respect to the rejection(s) of claim(s) 16, 19, and 30 under 35 U.S.C. 103(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Schlosser et al (US 6,255,371) in view of Flippo et al (US 2001/0008913) as applied to claims 15, 20-26, and 28-32 in rejections set forth above.

8. Applicant's argument regarding unexpected results as to fire-retardant composition is not found to be convincing for the following reasons. In Table 1 of the Specification Composition A is the comparative example while **Embodiments 1-4** are the inventive examples. Although Applicant argues unexpected results regarding that fact that Composition A passed the GWFT test at 960 degrees C but failed GWFT test at 775 degrees, while Inventive Examples 1-4 passed both GWFT tests, the following differences are noted in the composition which render Applicant's argument unconvincing:

- a. Regarding the amount of polyamide (PA) Composition a comprises 51.5 wt %, while Inventive Examples 1-4 comprise varying amounts of PA, specifically 46.5 wt %, 50 wt %, 47 wt % and 46.5 wt %.
- b. Composition A comprises 6 wt % F2, while inventive Examples 2-3 comprise 6.5 wt % and 5 wt % respectively.
- c. Composition A comprises 11.5 wt % F1 which compositions 2-3 comprises 12.5 wt % and 10 wt % of F2, respectively.
- d. Composition A comprises 0.5 wt % wt while inventive example 4 comprises 0 wt % ZB.

For the reasons stated above (a-d), the comparison of composition A to inventive Examples 1-4 is not a valid side-by-side comparison.

Furthermore, it is noted that as set forth in MPEP 716.02(d), whether unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, “objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support”. In other words, the showing of unexpected results must be reviewed to see if the results occurred over the entire claimed range, *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980). Applicants have not provided data to show that the unexpected results do in fact occur over the entire claimed range of the following compounds:

- a. It is noted that while inventive examples 1-4 comprise at least 13 wt % of compounds F1 and F2, a currently recited in claim 1, claim 1 recites that the composition comprises from 1 to 30 wt % of F1, 1 to 20 wt % of F2, and 0.1 to 20 wt% of F3. Inventive Examples 1-4 in Table 1 comprise 11.0 wt % to 12 wt % of F1, 5 wt % to 6.5 wt % of F2, and 1 wt % to 7 wt % of F3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)270-3869. The examiner can normally be reached on Monday-Friday, 8:00 AM -5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796